

## ABSTRACT

A method of treatment of a host with a cellular proliferative disease, comprising contacting the host with a hexitol and an antiproliferative agent, each in an amount sufficient to modulate said cellular proliferative disease, is described. In some embodiments, the hexitol comprises dianhydrogalactitol (Dianhydrodulcitol; Dulcitol diepoxide; DAD; DAG; 5,6-Diepoxydulcitol; 1,2:5,6-Dianhydrodulcitol; 1,2:5,6-Dianhydrogalactitol; 1,2:5,6-Diepoxydulcitol). Antiproliferative agents of the invention comprise alkylating agents, intercalating agents, metal coordination complexes, pyrimidine nucleosides, purine nucleosides, inhibitors of nucleic acid associated enzymes and proteins, and agents affecting structural proteins and cytoplasmic enzymes. The invention comprises the described methods as well as compositions comprising a hexitol and an antiproliferative agent.